

*A*  
*B1*  
--11. A membrane comprising a composition including

- (a) 10 to 90 wt-% of at least one polyurethane elastomer comprising at least one hard segment and at least one soft segment, and
- (b) 90 to 10 wt-% of a solid,

wherein said solid is incorporated in said at least one polyurethane elastomer.

12. A membrane according to claim 11, wherein the at least one polyurethane elastomer is a thermoplastic polyurethane elastomer.

13. Membrane according to claim 11, wherein the solid has a primary particle size of 0.005 to 30 microns.

14. Membrane according to claim 11, wherein the polyurethane elastomer has at least one of the following characteristics:

- (a) a melting point of the hard segment of more than 100 °C, and
- (b) the soft segment comprises ether linkages, ester linkages or carbonate linkages or a combination of two or more thereof.

15. Membrane according to claim 11, wherein the solid is an inorganic basic compound which is selected from the group consisting of oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of the I, II, III, or IV main group or the IV side group of the periodic table; a polymer being selected from the group consisting of polyethylene, polypropylene, polystyrene, poly(tetrafluorethylene),

C

poly(vinylidene fluoride), polyamides, polyimides; a solid dispersion comprising such a polymer, or mixtures of two or more thereof.

16. Membrane according to claim 12, wherein the solid is an inorganic basic compound which is selected from the group consisting of oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of the I, II, III, or IV main group or the IV side group of the periodic table; a polymer being selected from the group consisting of polyethylene, polypropylene, polystyrene, poly(tetrafluorethylene), poly(vinylidene fluoride), polyamides, polyimides; a solid dispersion comprising such a polymer, or mixtures of two or more thereof.
17. Membrane according to claim 13, wherein the solid is an inorganic basic compound which is selected from the group consisting of oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of the I, II, III, or IV main group or the IV side group of the periodic table; a polymer being selected from the group consisting of polyethylene, polypropylene, polystyrene, poly(tetrafluorethylene), poly(vinylidene fluoride), polyamides, polyimides; a solid dispersion comprising such a polymer, or mixtures of two or more thereof.
18. Membrane according to claim 14, wherein the solid is an inorganic basic compound which is selected from the group consisting of oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and

carbides of the elements of the I, II, III, or IV main group or the IV side group of the periodic table; a polymer being selected from the group consisting of polyethylene, polypropylene, polystyrene, poly(tetrafluorethylene), poly(vinylidene fluoride), polyamides, polyimides; a solid dispersion comprising such a polymer, or mixtures of two or more thereof.

19. Composite comprising at least one first layer comprising an electron conducting electrochemically active compound, and at least one second layer comprising the membrane according to claim 11 and being free of an electron-conducting electrochemically active compound.
20. Composite comprising at least one first layer comprising an electron- conducting electrochemically active compound, and at least one second layer comprising the membrane according to claim 12 and being free of an electron-conducting electrochemically active compound.
21. Composite comprising at least one first layer comprising an "electron- conducting electrochemically active compound, and at least one second layer comprising the membrane according to claim 3 and being free of an electron- conducting electrochemically active compound.
22. Composite comprising at least one first layer comprising an electron- conducting electrochemically active compound, and at least one second layer comprising the membrane according to claim 14 and being free of an electron-conducting

electrochemically active compound.

23. Composite comprising at least one first layer comprising an electron-conducting electrochemically active compound, and at least one second layer comprising the membrane according to claim 5 and being free of an electron-conducting electrochemically active compound.
24. Composite according to claim 19, wherein said at least one first layer comprises an electron conducting electrochemically active compound being generally used for cathodes.
25. Composite according to claim 19, wherein said at least one first layer comprises an electron-conducting electrochemically active compound, as generally used for anodes.
26. Method of using of a membrane according to claim 11 as a separator in electrochemical cells.
27. Method of using of a membrane according to claim 13 as a separator in electrochemical cells.
28. Method of using of a membrane according to claim 15 as a separator in electrochemical cells.
29. An electrochemical cell which comprises a membrane according to claim 11 or a combination of two or more thereof.
30. An electrochemical cell which comprises a composite according to claim 19 or a combination of two or more thereof.--